

IN THE CLAIMS

1. (Previously Presented) A light emitting diode (LED) display device comprising:

a substrate;

a plurality of walls disposed on the substrate, the plurality of walls forming a cavity, the cavity being filled with an encapsulant, the encapsulant not including fluorescent material;

an LED disposed on a first portion of the substrate within the cavity;

an electrical connection between the LED and a second portion of the substrate;

and

a fluorescent material overlay at a top end of the cavity, wherein the fluorescent material overlay has a thickness that substantially fully converts all light emitted from the LED to fluorescent radiation.

2. (Original) A light emitting diode display device according to claim 1, wherein the fluorescent material overlay includes a layer of phosphor particles.

3. (Original) A light emitting diode display device according to claim 1, wherein the fluorescent material overlay has a substantially consistent thickness and includes a substantially uniform matrix of phosphor particles.

4. (Original) A light emitting diode display device according to claim 1, wherein the fluorescent material overlay includes a combination of two or more fluorescent material types.

5. (Original) A light emitting diode display device according to claim 1, wherein the fluorescent material overlay includes phosphor particles having a mean diameter within the range of 1 micrometer to 50 micrometer.

6. (Original) A light emitting diode display device according to claim 1, wherein the fluorescent material overlay includes phosphor particles having a mean diameter within the range of 10 nanometer to 100 nanometer.

7. (Original) A light emitting diode display device according to claim 1, wherein the fluorescent material overlay includes organic dye.

8. (Currently Amended) A light emitting diode (LED) display device comprising:

a substrate;

a plurality of walls disposed on the substrate, the plurality of walls forming a cavity;

an LED disposed on a first portion of the substrate within the cavity;

an electrical connection between the LED and a second portion of the substrate;

and

a fluorescent material overlay at a top end of the cavity, wherein only a portion of the fluorescent material overlay includes having an area and including a layer of fluorescent material disposed over only a portion of the area, and wherein another portion of the area fluorescent material overlay does not have any fluorescent material.

9. (Original) A light emitting diode display device according to claim 8, wherein the fluorescent material overlay has a substantially consistent thickness and includes a uniform matrix of phosphor particles.

10. (Original) A light emitting diode display device according to claim 8, wherein the fluorescent material overlay includes a combination of two or more fluorescent material types.

11. (Original) A light emitting diode display device according to claim 8, wherein the fluorescent material overlay includes phosphor particles having a mean diameter within the range of 1 micrometer to 50 micrometer.

12. (Original) A light emitting diode display device according to claim 8, wherein the fluorescent material overlay includes phosphor particles having a mean diameter within the range of 10 nanometer to 100 nanometer.

13. (Original) A light emitting diode display device according to claim 8, wherein the fluorescent material overlay includes organic dye.

14. (Currently Amended) A light emitting diode (LED) display device comprising:

a substrate;

a plurality of cavities, each of the plurality of cavities formed within a plurality of walls disposed on the substrate;

a plurality of LEDs, each of the plurality of LEDs disposed within a separate one of the plurality of cavities, each of the plurality of LEDs disposed on a first portion of the substrate;

a plurality of electrical connections, each of the plurality of electrical connections connecting one of the plurality of LEDs to one or more respective second portions of the substrate; and

a single fluorescent material overlay at a top end of the plurality of cavities.

15. (Original) A light emitting diode display device according to claim 14, wherein the fluorescent material overlay includes a layer of phosphor particles.

16. (Original) A light emitting diode display device according to claim 14, wherein the fluorescent material overlay has a substantially consistent thickness and includes a substantially uniform matrix of phosphor particles.

17. (Original) A light emitting diode display device according to claim 14, wherein the fluorescent material overlay includes phosphor particles having a mean diameter within the range of 1 micrometer to 50 micrometer.

18. (Original) A light emitting diode display device according to claim 14, wherein the fluorescent material overlay includes phosphor particles having a mean diameter within the range of 10 nanometer to 100 nanometer.

19. (Original) A light emitting diode display device according to claim 14, wherein the fluorescent material overlay includes organic dye.

20. (Previously Presented) A light emitting diode display device according to claim 14, wherein the fluorescent material overlay include a plurality of fluorescent material types, and each of the plurality of fluorescent material types is included in a corresponding portion or portions of the plurality of cavities.